



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,373	11/12/2003	Casimer M. DeCusatis	POU903126US	6367
46369	7590	03/15/2007	EXAMINER	
HESLIN ROTHENBERG FARLEY & MESITI P.C. 5 COLUMBIA CIRCLE ALBANY, NY 12203			LEUNG, CHRISTINA Y	
			ART UNIT	PAPER NUMBER
			2613	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/706,373	DECUSATIS ET AL.
	Examiner Christina Y. Leung	Art Unit 2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12 November 2003.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-31 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-8, 11-18 and 21-29 is/are rejected.  
 7) Claim(s) 9, 10, 19, 20, 30 and 31 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 12 November 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11-12-03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 11-15, 21, and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsey et al. (US 6,226,296 B1) in view of Gregg et al. (US 5,610,945 A).

Regarding claim 1, Lindsey et al. discloses a method (Figure 8B) comprising:

time division multiplexing (TDM) at least two data streams to create a TDM multiplexed data stream (using a TDM gigabit multiplexer as shown in Figure 8B, for example); and outputting the TDM multiplexed data stream for forwarding across a network (via an optical laser transmitter and fibers 851 and 852 as shown in Figure 8B; column 11, lines 41-67; column 12, lines 1-67; column 13, lines 1-11).

Regarding claim 11, as similarly discussed above with respect to claim 1, Lindsey et al. disclose a system (Figure 8B) comprising:

means for time division multiplexing (TDM) at least two data streams to create a TDM multiplexed data stream (e.g., a TDM gigabit multiplexer as shown in Figure 8B); and means for outputting the TDM multiplexed data stream for forwarding across the network (e.g., optical laser transmitter, splitter 850, and fibers 851 and 852; column 11, lines 41-67; column 12, lines 1-67; column 13, lines 1-11).

Regarding claim 21, as similarly discussed above with respect to claims 1 and 11, Lindsey et al. disclose a system (Figure 8B) comprising:

a time division multiplexing (TDM) module adapted to time division multiplex at least two data streams to create a TDM multiplexed data stream (e.g., a TDM gigabit multiplexer as shown in Figure 8B); and  
the TDM module being further adapted to output the TDM multiplexed data stream for forwarding across the network (via elements such as optical laser transmitter, splitter 850, and fibers 851 and 852; column 11, lines 41-67; column 12, lines 1-67; column 13, lines 1-11).

Regarding claim 22, as similarly discussed above with respect to claims 1, 11, and 21, Lindsey et al. disclose at least one program storage device readable by a machine, embodying at least one program of instructions executable by the machine to perform a method, the method comprising:

time division multiplexing (TDM) at least two data streams to create a TDM multiplexed data stream (using a TDM gigabit multiplexer as shown in Figure 8B, for example); and  
outputting the TDM multiplexed data stream for forwarding across the network (via an optical laser transmitter and fibers 851 and 852 as shown in Figure 8B; column 11, lines 41-67; column 12, lines 1-67; column 13, lines 1-11).

Further regarding claim 22 in particular, Lindsey et al. disclose various control elements which inherently include stored instructions that are executed by the control elements to perform the method steps as disclosed by Lindsey et al. (Figures 16 and 17, for example, shows central processing units and a computer controller element 1710).

Further regarding claims 1, 11, 21, and 22, Lindsey et al. do not explicitly disclose a particular “inter-system channel” data format.

However, Gregg et al. teach a system that is related to the one disclosed by Lindsey et al. including transmitting channels between systems and further teach inter-system channels (column 2, lines 60-67; column 3, lines 1-9).

Regarding claims 1, 11, 21, and 22, it would have been obvious to a person of ordinary skill in the art specifically use inter-system channels as taught by Gregg et al. as the data streams in the system and method disclosed by Lindsey et al. as an engineering design choice of a particular data protocol for ensuring effective communicate information between various systems. The claimed differences exist not as a result of an attempt by Applicants to solve an unknown problem but merely amount to the selection of expedients known as design choices to one of ordinary skill in the art. Examiner notes that Lindsey et al. already generally disclose that the data streams are channels which are communicated between systems (i.e., “inter-system”).

Regarding claims 2, 12, and 23, Lindsey et al. disclose means for forwarding the TDM multiplexed data stream across a network over a single wavelength (e.g., an optical laser transmitter as shown in Figure 8B).

Regarding claims 3, 13, and 24, Lindsey et al. disclose that the network comprises a wavelength division multiplexing (WDM) network (including wavelength division multiplexer 810 as shown in Figure 8B; column 12, lines 46-67; column 13, lines 1-11).

Regarding claims 4, 14, and 25, Lindsey et al. disclose means for wavelength division multiplexing the TDM multiplexed data stream with at least one other data stream onto the single

wavelength for forwarding across the WDM network (e.g., wavelength division multiplexer 810 as shown in Figure 8B; column 12, lines 46-67; column 13, lines 1-11).

Regarding claims 5, 15, and 26, Lindsey et al. disclose that the at least one other data stream comprises at least one other TDM multiplexed data stream (e.g., the other data stream output from the other optical laser transmitter shown in Figure 8B; column 12, lines 46-67; column 13, lines 1-11).

3. Claims 6-8, 16-18, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsey et al. in view of Gregg et al. as applied to claims 1, 11, and 22 respectively above, and further in view of either Cecchi (US 5,428,649 A) or Moon (US 6,111,897 A).

Regarding claims 6, 16, and 27, Lindsey et al. in view of Gregg et al. describe a method and system as discussed above with respect to claims 1, 11, and 22 respectively. Lindsey et al. further disclose that the means for time division multiplexing employs a first-in first-out (FIFO) buffer (buffers are shown in Figure 8B; see also column 7, lines 51-54; column 8, lines 34-50). Lindsey et al. further generally disclose balancing input and output FIFO buffer clocking rates (column 7, lines 52-54; column 16, lines 30-34) but do not specifically disclose at least one of inserting and deleting words in at least one data stream.

However, Cecchi teaches a system including buffers for balancing different clocking rates between input data streams and output data streams and further teaches inserting and deleting words in at least one data stream (column 1, lines 45-59).

Similarly, Moon also teaches a system including buffers for balancing different clocking rates between input data streams and output data streams and further teaches inserting and deleting words in at least one data stream (column 4, lines 45-67)

Art Unit: 2613

Regarding claims 6, 16, and 27, it would have been obvious to a person of ordinary skill in the art insert and/or delete words in the at least one data stream as taught by either Cecchi or Moon in the method and system described by Lindsey et al. in view of Gregg et al. in order to properly change the data rate of the data stream so that it may be effectively transmitted by the system at the desired data rate. Again, Lindsey et al. already generally disclose balancing input and output clocking rates using a FIFO buffer (column 7, lines 52-54; column 16, lines 30-34).

Regarding claims 7, 17, and 28, Lindsey et al. in view of Gregg et al. and Cecchi or Moon already describe a system and method including inserting and deleting words in inter-system channel data streams. Cecchi or Moon teach inserting and deleting words but do not specifically teach that the inserting and deleting words maintains disparity balance within each of the data streams.

However, Gregg et al. further teach that the inter-system channel data streams are processed by detecting specific pairs of certain types of words and teach maintaining these pairs of words in the inter-system channel data streams in order to properly process the data streams (column 7, lines 9-49). Regarding claims 7, 17, and 28, it would have been obvious to a person of ordinary skill in the art to maintain disparity balance within each of the at least two ISC data streams as suggested by Gregg et al. in the system and method described by Lindsey et al. in view of Gregg et al. and Cecchi or Moon in order to ensure that the information in the inter-system channel data streams may be effectively processed and received.

Regarding claims 8, 18, and 29, Lindsey et al. in view of Gregg et al. and Cecchi or Moon already describe a system and method including inserting and/or deleting words in inter-system channel data streams. Gregg et al. further teach that the inter-system channel data streams

comprise at least some of idle sequences, frame sequences and continuous sequences (column 6, lines 36-41).

Examiner notes that the claims do not provide any further details regarding “first” and “second” protocols and do not even specifically recite that they are necessarily different protocols. A “first” protocol as currently recited in the claims may be distinguished from a “second” protocol simply in the sense that the first protocol is the inserting/deleting of words in idle sequences and frame sequences of the data stream, and the second protocol is the inserting/deleting of words in continuous sequences of the data stream.

Therefore, regarding claims 8, 18, and 29, the inserting and deleting in the combination suggested by Lindsey et al. in view of Gregg et al. and Cecchi or Moon employs a “first” protocol for idle sequences and frame sequences and a “second” protocol for continuous sequences in the already-described steps of inserting and deleting, since Gregg et al. already teach that the data stream includes these three types of sequences.

***Allowable Subject Matter***

4. Claims 9, 10, 19, 20, 30, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

The prior art, including Lindsey et al, Gregg et al., Cecchi, and Moon, does not specifically disclose or fairly suggest a system or method including all of the elements, steps, and limitations recited in claims 9, 10, 19, 20, 30, or 31, including all of the limitations of all the

Art Unit: 2613

parent claims on which they depend, particularly wherein the first and second protocols comprise the combination of particular steps recited in the claims.

*Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Christina Y. Leung*  
CHRISTINA LEUNG  
PRIMARY EXAMINER